

B. In the Claims

Please rewrite the following claims.

B3 1. (amended) A method of producing a bisubstrate inhibitor in a cell, comprising introducing into the cell a N-bromoacetylated acetyl acceptor substrate or a N-chloroacetylated acetyl acceptor substrate for an acetyltransferase present in the cell.

5. (amended) The method of claim 1, wherein the acetyltransferase is arylalkylamine N-acetyltransferase (AANAT) and the acetyl acceptor substrate is selected from the group consisting of N-bromoacetyltryptamine, N-bromoacetylserotonin, -bromoacetylphenylethylamine, N-bromo-acetyl-methoxytryptamine, N-bromoacetyltyramine, N-chloroacetyltryptamine, N-chloroacetylserotonin, N-chloroacetylphenylethylamine, N-chloro-acetyl-methoxytryptamine, and N-chloroacetyltyramine.

B4 6. (amended) A method of inhibiting the activity of an acetyltransferase in a cell, comprising introducing into the cell a N-bromoacetylated acetyl acceptor substrate or a N-chloroacetylated acetyl acceptor substrate for an acetyltransferase present in the cell under conditions whereby a bisubstrate inhibitor will be produced, thereby inhibiting the activity of the acetyltransferase in the cell.

B5 10. (amended) The method of claim 6, wherein the acetyltransferase is arylalkylamine N-acetyltransferase (AANAT) and the alkylating derivative of the acetyl acceptor substrate is selected from the group consisting of N-bromoacetyltryptamine, N-bromoacetylserotonin, -bromoacetylphenylethylamine, N-bromo-acetyl-methoxytryptamine, N-bromoacetyltyramine, N-chloroacetyltryptamine, N-chloroacetylserotonin, N-chloroacetylphenylethylamine, N-chloro-acetyl-methoxytryptamine, and N-chloroacetyltyramine.

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11. (amended) A method of inhibiting melatonin production in a cell which produces melatonin, comprising introducing into the cell a N-bromoacetylated acetyl acceptor substrate or a N-chloroacetylated acetyl acceptor substrate of AANAT which is selected from the group consisting of N-bromoacetyltryptamine, -bromoacetylserotonin, N-bromoacetylphenylethylamine, N-bromo-acetyl-methoxytryptamine, N-bromoacetyltyramine, N-chloroacetyltryptamine, N-chloroacetylserotonin, -chloroacetylphenylethylamine, N-chloro-acetyl-methoxytryptamine, and N-chloroacetyltyramine.

B6

15. (amended) A cell comprising a bisubstrate inhibitor, wherein the bisubstrate inhibitor comprises a N-bromoacetylated acetyl acceptor substrate or a N-chloroacetylated acetyl acceptor substrate for an acetyltransferase present in the cell and CoA.

P7

17. (amended) The cell of claim 15, wherein the acetyltransferase is produced in the cell from an exogenous nucleic acid encoding the acetyltransferase.

P8

19. (amended) The cell of claim 15, wherein the acetyltransferase is arylalkylamine – acetyltransferase (AANAT) and the acetyl acceptor substrate is selected from the group consisting of N-bromoacetyltryptamine, N-bromoacetylserotonin, -bromoacetylphenylethylamine, N-bromo-acetyl-methoxytryptamine, N-bromoacetyltyramine, N-chloroacetyltryptamine, N-chloroacetylserotonin, N-chloroacetylphenylethylamine, N-chloro-acetyl-methoxytryptamine, and N-chloroacetyltyramine.

Please cancel claims 4, 9, 12, 13, 14 and 18 without prejudice.